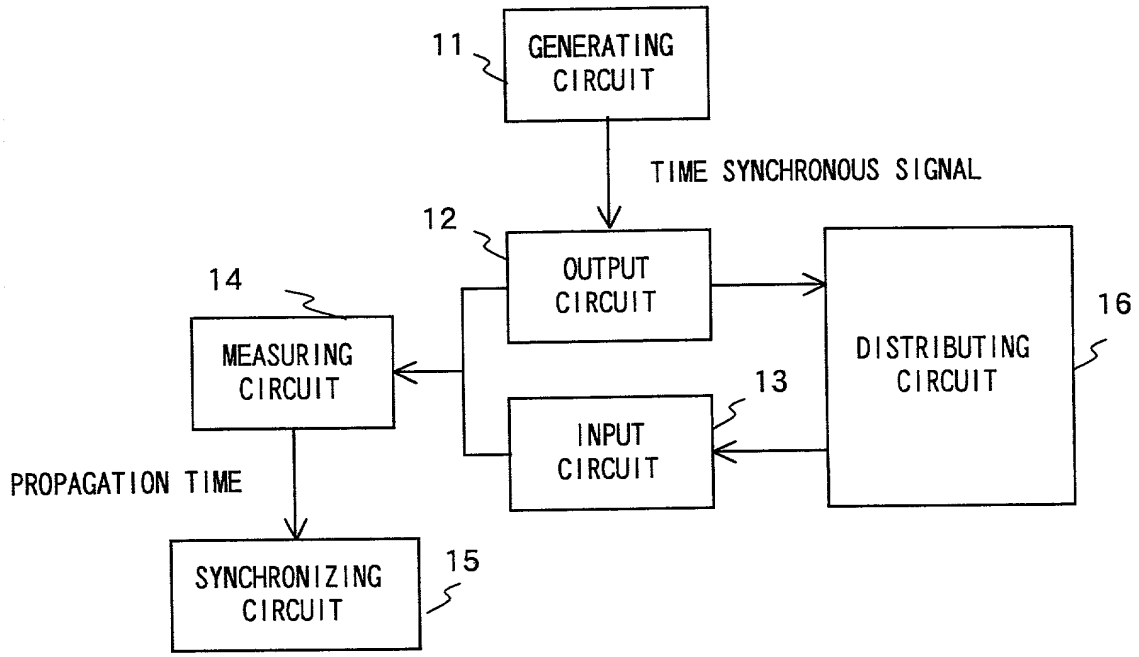
11
GENERATING CIRCUIT
TIME SYNCHRONOUS SIGNAL
12
OUTPUT CIRCUIT
14
MEASURING CIRCUIT
13
INPUT CIRCUIT
16
DISTRIBUTING CIRCUIT
PROPAGATION TIME
SYNCHRONIZING CIRCUIT
15

FIG. 1

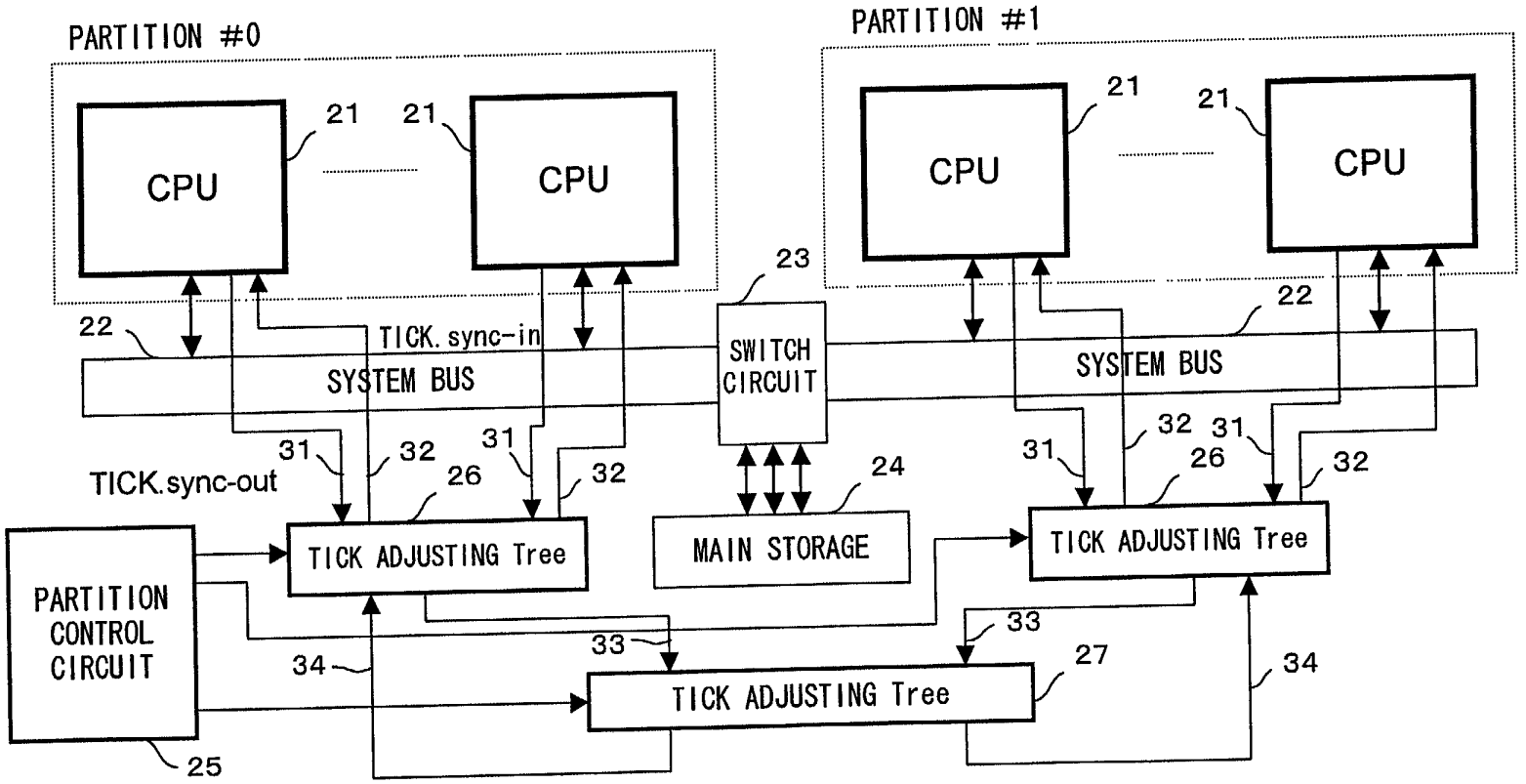
PARTITION #0
PARTITION #1
CPU
CPU
CPU
CPU
21
21
21
21
22
22
TICK.sync-in
SYSTEM BUS
SYSTEM BUS
23
SWITCH CIRCUIT
TICK.sync-out
31
32
31
32
31
32
31
32
26
26
24
MAIN STORAGE
TICK ADJUSTING Tree
TICK ADJUSTING Tree
PARTITION CONTROL CIRCUIT
33
33
34
34
27
TICK ADJUSTING Tree
25

FIG. 2

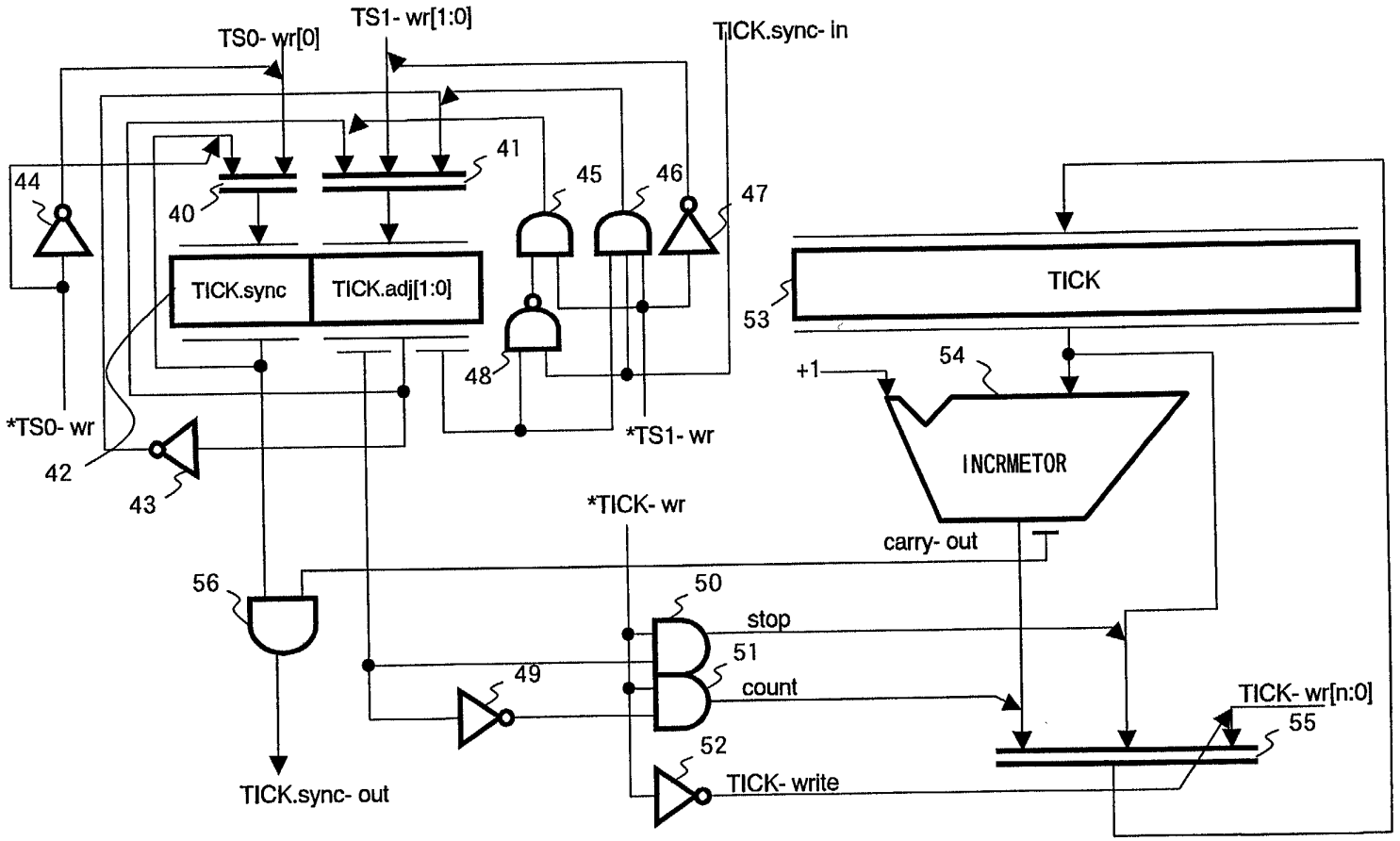
TS0- wr[0]
TS1- wr[1:0]
TICK.sync- in
41
44
40
45
46
47
TICK.sync
TICK.adj[1:0]
TICK
53
48
54
+1
*TS0- wr
*TS1- wr
INCRMETOR
42
43
*TICK- wr
carry- out
56
50
stop
51
count
49
TICK- wr[n:0]
55
52
TICK- write
TICK.sync- out

FIG. 3

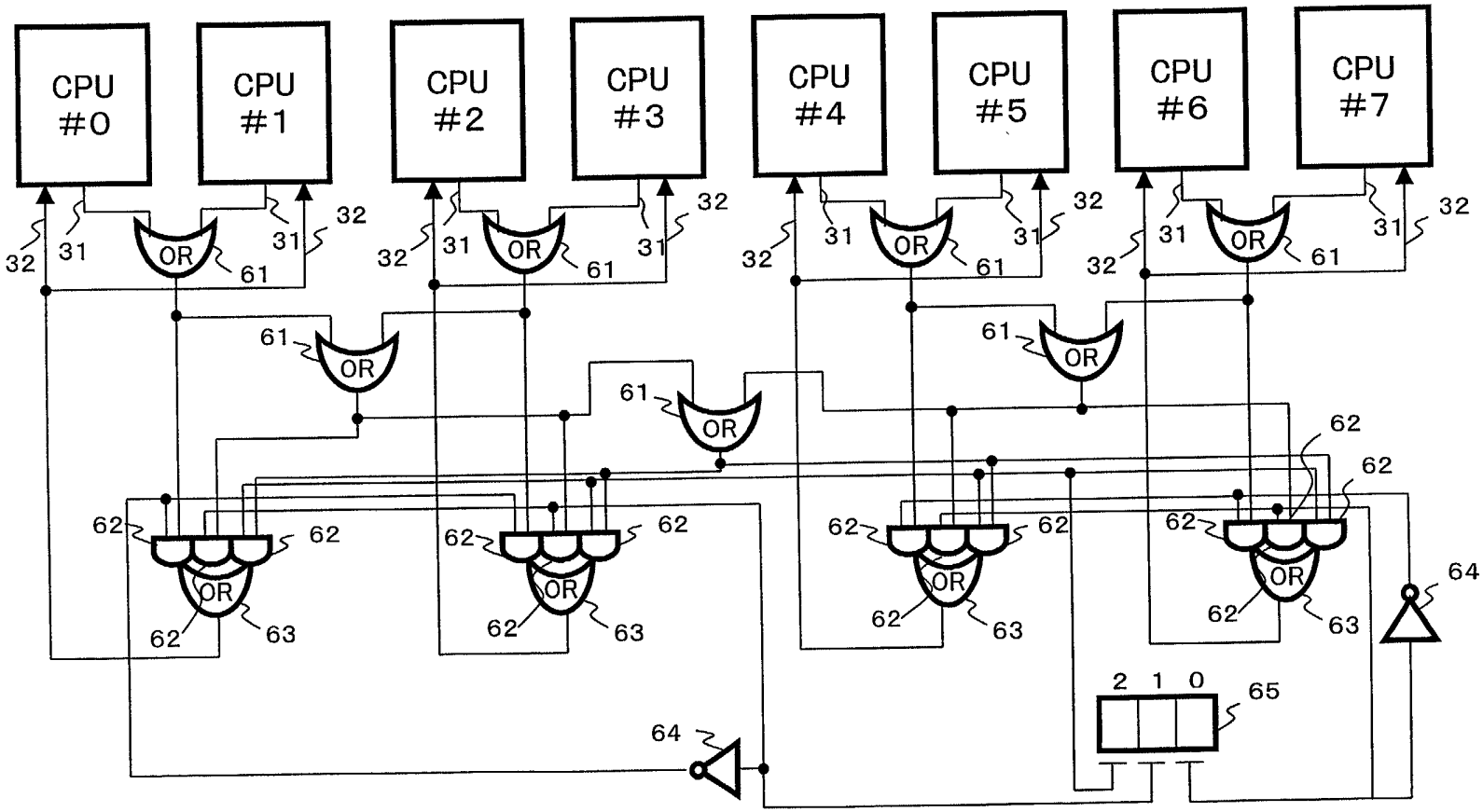
CPU #0
CPU #1
CPU #2
CPU #3
CPU #4
CPU #5
CPU #6
CPU #7
OR
61
62
63
64
65
31
32
2 1 0

FIG. 4

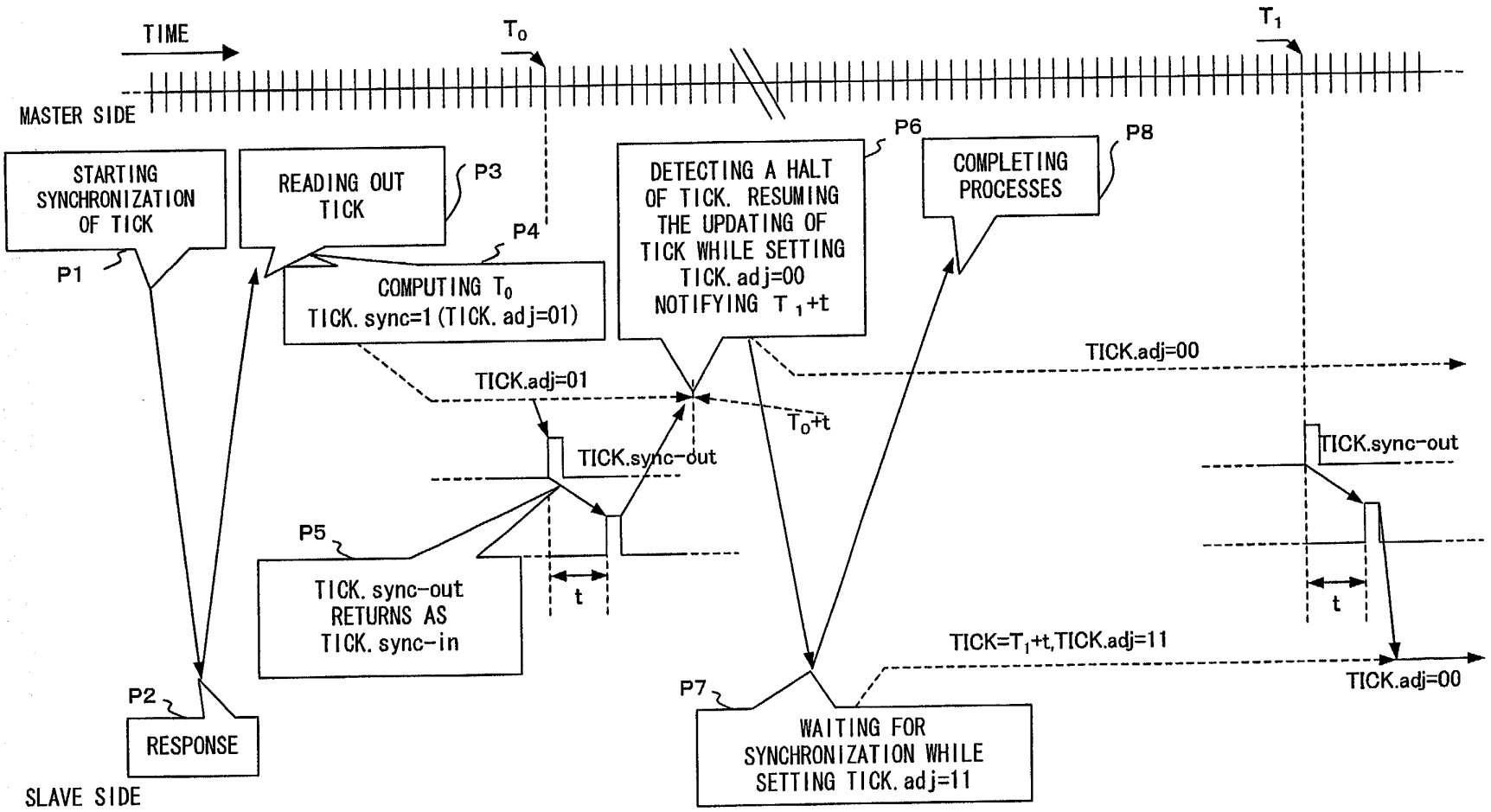
TIME
T_0
T_1
MASTER SIDE
STARTING SYNCHRONIZATION OF TICK
P1
READING OUT TICK
P3
P4
COMPUTING T_0
TICK. sync=1 (TICK. adj=01)
DETECTING A HALT OF TICK. RESUMING THE UPDATING OF TICK WHILE SETTING TICK. adj=00 NOTIFYING T_1+t
P6
COMPLETING PROCESSES
P8
TICK.adj=00
TICK.adj=01
T_0+t
TICK.sync-out
TICK.sync-out
P5
TICK. sync-out RETURNS AS TICK. sync-in
t
t
TICK=T_1+t,TICK.adj=11
TICK.adj=00
P2
RESPONSE
P7
WAITING FOR SYNCHRONIZATION WHILE SETTING TICK. adj=11
SLAVE SIDE

FIG. 5

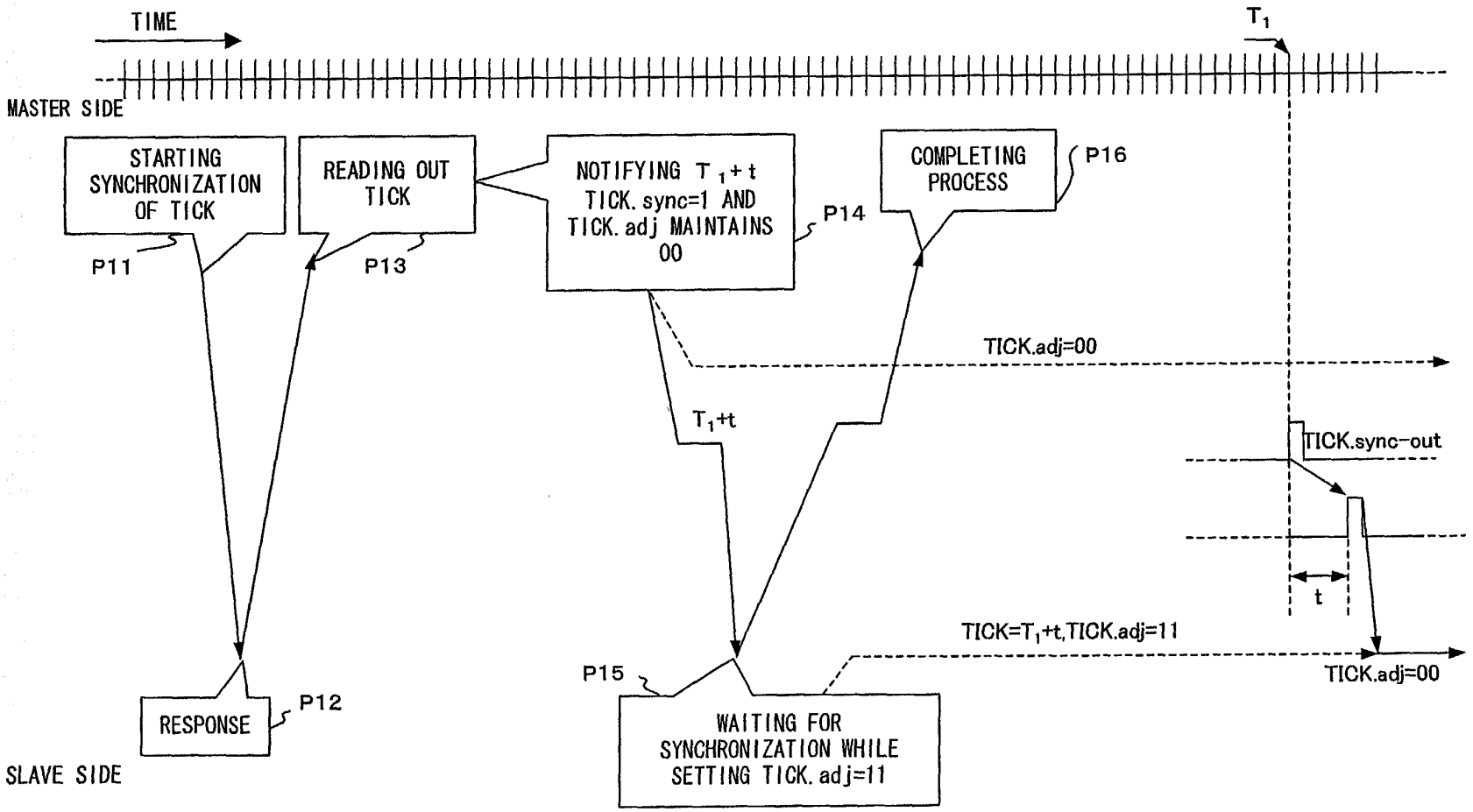
TIME
T_1
MASTER SIDE
STARTING SYNCHRONIZATION OF TICK
P11
READING OUT TICK
P13
NOTIFYING T_1+t TICK.sync=1 AND TICK.adj MAINTAINS 00
P14
COMPLETING PROCESS
P16
TICK.adj=00
T_1+t
TICK.sync-out
t
TICK=T_1+t,TICK.adj=11
TICK.adj=00
P15
WAITING FOR SYNCHRONIZATION WHILE SETTING TICK.adj=11
RESPONSE
P12
SLAVE SIDE

FIG. 6